4.0 CONCLUSIONS

Survey results indicate that when forestry BMPs are properly implemented, a risk to water quality was rarely observed during harvesting operations in North Carolina. On average statewide, when BMPs were properly implemented there was no risk to water quality nearly 100 percent of the time. Conversely, when BMPs were not implemented, it resulted in a risk to water quality a majority of the time (54%). The number of applicable BMPs varied across sites, geographic regions, and BMP categories; indicating that the design, selection, and implementation of BMPs are often a factor of site-specific conditions.

Training and information transfer have a noticeable positive influence on BMP implementation. Specifically, BMP implementation at harvest sites is noticeably higher when loggers with additional training (e.g., ProLogger) conduct the operation and when technical and / or preharvest planning assistance is provided. These topics highlight the importance of 1) forestry BMP implementation for the protection of water quality during harvesting operations and 2) BMP training and information outreach directed toward forest practitioners. As seen consistently throughout this report, implementation of forestry BMPs in the Mountains is more challenging than in other areas of the state. While there are many factors that play a role in this, steepness of slope and associated increased erosion hazard as well as higher drainage density (higher number of streams per unit area) are likely the most influential factors.

While summarized data from this Survey highlight many BMPs that are consistently well implemented, these data also highlight areas of needed BMP implementation improvement. In order to identify the BMP areas that need the most improvement, the nine BMP categories were ranked from one to nine based on BMP implementation and risk to water quality due to non-implementation. BMP implementation data was ranked based on statewide implementation averages for each category, with a score of ***one*** assigned to the ***most implemented*** and a score of ***nine*** to the ***least implemented*** category. Risk to water quality due to non-implementation was ranked based on statewide risk averages for each category, with a score of ***one*** assigned to the ***lowest risk*** to water quality and a score of ***nine*** to the ***highest risk*** to water quality. Scores from these two metrics were then added together in an effort to identify the BMP categories in need of the most implementation improvement that, when not implemented, represent the highest risk to water quality. These data are presented in Table 18 below.

Table 18. Combined Ranking of BMP Categories by BMP Implementation and Risk to WQ

Relative Order of Importance	BMP Category	BMP Implementation Score	Risk to Water Quality Score	Combined Score
1	Stream Crossings	8	8	16
2	Rehabilitation of Project Site	9	6	15
3	Debris Entering Streams	5	7	12
4	Skid Trails	7	5	12
5	Streamside Management Zones	2	9	11
6	Forest Access Roads	6	3	9
7	Stream Temperature	3	4	7
8	Access Road Entrances	4	1	5
9	Waste Entering Streams, Water Bodies, or Groundwater	1	2	3